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see page 5

Page 1 of 7

JUL 3 1 2001 TECH CENTER 1600/2900

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/689,992

DATE: 07/05/2001 TIME: 11:13:17

Input Set : A:\07917-105001.txt

Output Set: N:\CRF3\07032001\1689992.raw

- 4 <110> APPLICANT: Mello, Craig C.
- Tabara, Hiroaki
- 6 Grishok, Alla
- 7 Fire, Andrew
- 9 <120> TITLE OF INVENTION: RNA INTERFERENCE PATHWAY GENES AS TOOLS FOR TARGETED GENETIC INTERFERENCE 11 <130> FILE REFERENCE: 07917-105001
 - 13 <140> CURRENT APPLICATION NUMBER: US 09/689,992
- C--> 14 <141> CURRENT FILING DATE: 2001-06-21
 - 16 <150> PRIOR APPLICATION NUMBER: US 60/193,218
 - 17 <151> PRIOR FILING DATE: 2000-03-30
 - 19 <150> PRIOR APPLICATION NUMBER: US 60/159,776
 - 20 <151> PRIOR FILING DATE: 1999-10-15
 - 22 <160> NUMBER OF SEQ ID NOS: 15
 - 24 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 - 26 <210> SEQ ID NO: 1
 - 27 <211> LENGTH: 3719
 - 28 <212> TYPE: DNA
 - 29 <213> ORGANISM: Caenorhabditis elegans

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35 tatgagaaga aagtacttct tttggtaaat tggttcaagt tctccagcaa aatttacgat 36 cgggaatact acgagtatga agtgaaaatg acaaaggaag tattgaata	180
36 cgggaatact acgagtatga agtgaaaatg acaaaggaag tattgaatag aaaaccagga 38 atttattat	240
37 aaacetttee caaaaaagac agaaatteea atgtaagtge ttgtaaatta gtcaaaacta 39 aageagaagaa tegteega tegtgeaaaa ctettetgge aagaaatta gtcaaaacta	300
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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/689,992 DATE: 07/05/2001 TIME: 11:13:17

Input Set : A:\07917-105001.txt

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	62 atgaacaaat taaaatgaca ccagtgattc gtggatttca agaacaacaa ttgaatgtgaa 63 ttcccgaaaa agaactttgc tgtgctgttt ttgtagtcaa cgaacaacaa ttgaatgtgg	1800
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	22 MARKALOTON ACCOUNTS	3540
	93 aaagcccggt ttcaaaaatt cattccatga ctaacgttt cataaattac ttgaaattt 95 <210> SEQ ID NO: 2	3600
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		420
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•	110 aaaatccgga aaaagacgaa gaagcgaatc ggagttacaa attcctgaac tttagtcgag	540
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111 cccagaaagt tcgctacgcg ccttttgtga acgaggagat taaagtacaa ttcgcgaaaa	
112 attitgtgta cgataataat tcaattetge gagtteetga ategtteae gatecaaaca 113 gattegaaca ateattagaa gtagcaccaa gaategaaga atgettaac gatecaaaca	660
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140 aagcaaagtt cgtgaaattg ctcagagaat tcgcagaaaa caacgacaaa gatattttgg 141 cgcatattgt agtctatcga gacggagtta gcgattcgga gatgataat cgagcaccag	2340
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142 atgagetteg atetttaaaa agegaagtaa aacaatteat gtegaaegg gatgeaegg 143 ateeagagee gaagtacaeg tteattgtga tteagaaagg agegaagg	2460
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153 toaattgtag atattgtact tactttttt taaagcoogg ticaaaaatttt 154 actaacgtt toataaatta cttgaaattt aaaaaaaaaa tcattccatg	3120
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The second second

162 Met Ser Ser Asn Phe Pro Glu Leu Glu Lys Gly Phe Tyr Arg His Ser 164 Leu Asp Pro Glu Met Lys Trp Leu Ala Arg Pro Thr Gly Lys Cys Asp 166 Gly Lys Phe Tyr Glu Lys Lys Val Leu Leu Leu Val Asn Trp Phe Lys 168 Phe Ser Ser Lys Ile Tyr Asp Arg Glu Tyr Tyr Glu Tyr Glu Val Lys 170 Met Thr Lys Glu Val Leu Asn Arg Lys Pro Gly Lys Pro Phe Pro Lys 172 Lys Thr Glu Ile Pro Ile Pro Asp Arg Ala Lys Leu Phe Trp Gln His 174 Leu Arg His Glu Lys Lys Gln Thr Asp Phe Ile Leu Glu Asp Tyr Val 105 176 Phe Asp Glu Lys Asp Thr Val Tyr Ser Val Cys Arg Leu Asn Thr Val 120 178 Thr Ser Lys Met Leu Val Ser Glu Lys Val Val Lys Lys Asp Ser Glu 135 180 Lys Lys Asp Glu Lys Asp Leu Glu Lys Lys Ile Leu Tyr Thr Met Ile 182 Leu Thr Tyr Arg Lys Lys Phe His Leu Asn Phe Ser Arg Glu Asn Pro 165 170 184 Glu Lys Asp Glu Glu Ala Asn Arg Ser Tyr Lys Phe Leu Lys Asn Val 185 186 Met Thr Gln Lys Val Arg Tyr Ala Pro Phe Val Asn Glu Glu Ile Lys 200 188 Val Gln Phe Ala Lys Asn Phe Val Tyr Asp Asn Asn Ser Ile Leu Arg 190 Val Pro Glu Ser Phe His Asp Pro Asn Arg Phe Glu Gln Ser Leu Glu 192 Val Ala Pro Arg Ile Glu Ala Trp Phe Gly Ile Tyr Ile Gly Ile Lys 250 194 Glu Leu Phe Asp Gly Glu Pro Val Leu Asn Phe Ala Ile Val Asp Lys 265 196 Leu Phe Tyr Asn Ala Pro Lys Met Ser Leu Leu Asp Tyr Leu Leu Leu 280 198 Ile Val Asp Pro Gln Ser Cys Asn Asp Asp Val Arg Lys Asp Leu Lys 295 200 Thr Lys Leu Met Ala Gly Lys Met Thr Ile Arg Gln Ala Ala Arg Pro 202 Arg Ile Arg Gln Leu Leu Glu Asn Leu Lys Leu Lys Cys Ala Glu Val 315 330 204 Trp Asp Asn Glu Met Ser Arg Leu Thr Glu Arg His Leu Thr Phe Leu 345 206 Asp Leu Cys Glu Glu Asn Ser Leu Val Tyr Lys Val Thr Gly Lys Ser 360 208 Asp Arg Gly Arg Asn Ala Lys Lys Tyr Asp Thr Thr Leu Phe Lys Ile 210 Tyr Glu Glu Asn Lys Lys Phe Ile Glu Phe Pro His Leu Pro Leu Val

RAW SEQUENCE LISTING

PATENT APPLICATION: DATE: 07/05/2001 US/09/689,992 TIME: 11:13:17

Input Set : A:\07917-105001.txt

Output Set: N:\CRF3\07032001\1689992.raw

031. II. (CRF3\0/032001\1689992.raw
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390 395 400 212 Lys Val Lys Ser Gly Ala Lys Glu Tyr Ala Val Pro Met Glu His Leu 214 Glu Val His Glu Tyr Ala Val Pro Met Glu His Leu
213 400
214 Glu Val His Glu His Leu
214 Glu Val His Glu Lys Pro Gln Arg Tyr Lys Asn Arg Ile Asp Leu Val 216 Met Gln Agn Lys 120 216 Met Gln Agn Lys 120
420 425 ASH ARY IIe ASP Leu Val
210 Met Gin Asp Lys Phe Leu Lys Arg Ala mb. 3
216 Met Gln Asp Lys Phe Leu Lys Arg Ala Thr Arg Lys Pro His Asp Tyr 218 Lys Glu Agr Th
218 Lys Glu Asn Thr Leu Lys Met Leu Lys Glu Leu Asp Phe Ser Ser Glu 220 Glu Leu Asp Phe Ser Ser Glu 220 Glu Leu Asp Phe Ser Ser Glu
450 450 455 Glu Leu Asp Phe Ser Ser Glu
220 Glu Leu Asn Phe Val Glu Arg Phe Gly Leu Cys Ser Lys Leu Gln Met 221 465 470 475 475
221 465 A70
222 Ile Glu Cys Pro Gly Lyo yell 475
222 Ile Glu Cys Pro Gly Lys Val Leu Lys Glu Pro Met Leu Val Asn Ser 485 224 Val Asn Gly Clarat
224 Val Asn Glu Gln Ile Lys Met Thr Pro Val Ile Arg Gly Phe Gln Glu 225 500 505 505
225 Son Sit Gill He Lys Met Thr Pro Val He Arg Clu Ph
226 Lys Gly Lou 20 505
227 File Asn Val Val Pro Glu Lys Glu Leu Gyr G
226 Lys Gln Leu Asn Val Val Pro Glu Lys Glu Leu Cys Cys Ala Val Phe 227 515 520 529 Val Val Asn Gla Ti
229 Val Val Asn Glu Thr Ala Gly Asn Pro Cys Leu Glu Glu Asn Asp Val 231 Val Lys Pho True Ti
231 Vol. 535
231 Val Lys Phe Tyr Thr Glu Leu Ile Gly Gly Cys Lys Phe Arg Gly Ile 232 545 550 550 555 555
550 State of the Cys Lys Phe Arg Gly Ile
233 Arg Ile Gly Ala Asn Glu Asn Arg Clu 23
233 Arg Ile Gly Ala Asn Glu Asn Arg Gly Ala Gln Ser Ile Met Tyr Asp 235 Ala Thr Ive And Ser Ile Met Tyr Asp
235 Ala Thr Lys Asn Glu Tyr Ala Phe Tyr Lys Asn Cys Thr Leu Asn Thr 236 580 585 585
580 580 Thr Leu Asn Thr
237 Gly Ile Gly Arg Phe Glu Ile Ala Ala Thr Glu Ala Lys Asn Met Phe 239 Glu Arg Leu Pro 600
238 595 State Old Tie Ala Ala Thr Glu Ala Lys Asn Met pho
239 Glu Arg Leu Pro Asp Lys Glu Gln Lys Val Leu Met Phe 605 240 610 615 620
240 610 Lys Clu Gin Lys Val Leu Met Phe Ile Ile Ile Ile Ile Ile Ile Ile Ile Il
241 Ser Lys Arg Gln Leu Asn Ala Tyr Gly Phe Val Lys His Tyr Cys Asp 635 636 637
242 625 Ash Ala Tyr Gly Phe Val Lvs His Tyr Gun
243 His Thr Ile Cly Value 635
243 His Thr Ile Gly Val Ala Asn Gln His Ile Thr Ser Glu Thr Val Thr 245 Lys Ala Leu Ala G
245 Lys Ala Tou Ala 645
245 Lys Ala Leu Ala Ser Leu Arg His Glu Lys Gly Ser Lys Arg Ile Phe 247 Tyr Gla Lleu Ala Ser Leu Arg His Glu Lys Gly Ser Lys Arg Ile Phe
247 Tyr Cla Tland 665 665
248 670
247 Tyr Gln Ile Ala Leu Lys Ile Asn Ala Lys Leu Gly Gly Ile Asn Gln 249 Gly Ley Asp T
249 Glu Leu Asp Trp Ser Glu Ile Ala Glu Ile Ser Pro Glu Glu Lys Glu 251 Arg Arg Lys The Lys Trp Ser Glu Ile Ser Pro Glu Glu Lys Glu
251 Arg 7 695
251 Arg Arg Lys Thr Met Pro Leu Thr Met Tyr Val Gly Ile Asp Val Thr 253 His Pro Thr Gay 7
252 His 5 710 710 710 710 710 710 710 710 710 710
253 HIS Pro Thr Ser Tyr Ser Gly Ile Ass 715
253 His Pro Thr Ser Tyr Ser Gly Ile Asp Tyr Ser Ile Ala Ala Val Val 254 725 730
255 Ala Ser Ile Asn Pro Gly Gly Thr Ile Tyr Arg Asn Met Ile Val Thr 256 740 745 745
740 740 THE Tyr Arg Ash Met Ile Val Thr
257 Gln Glu Glu Cys Arg Pro Gly Glu Arg Ala Val Ala His Gly Arg Glu 258 755 760 765
755 755 250 Arg Ala Val Ala His Gly Arg Clu
259 Arg Thr Asp Ile Leu Clu Ale 7
259 Arg Thr Asp Ile Leu Glu Ala Lys Phe Val Lys Leu Leu Arg Glu Phe
775 780
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/689,992

DATE: 07/05/2001 TIME: 11:13:18

Input Set : A:\07917-105001.txt

Output Set: N:\CRF3\07032001\1689992.raw

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:381 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 L:381 M:341 W: (40) II OI Add used, IOI SEQ ID#.5
L:383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:866 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:868 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
I:002 M:241 W: (46) "n" or "Xaa" used, for SEQ ID#:12

L:923 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12

L:925 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12